Does Political Instability lead to higher inflation? A Panel Data Analysis*

Ari Aisen**
Economist, Monetary and Financial Systems Department, Systemic Issues Division
International Monetary Fund

Francisco José Veiga***
Associate Professor, Department of Economics
Universidade do Minho - NIPE

Abstract

Economists generally accept the proposition that high inflation rates generate inefficiencies that reduce society's welfare and economic growth. However, determining the causes of the worldwide diversity of inflationary experiences is an important challenge not yet satisfactorily confronted by the profession. Based on a dataset covering around 100 countries for the period 1960-1999 and using modern panel data econometric techniques to control for endogeneity, this paper shows that a higher degree of political instability is associated with higher inflation. The paper also draws relevant policy implications for the optimal design of inflation stabilization programs and of the institutions favorable to price stability.

Keywords: Inflation, volatility, political instability, institutions.
JEL codes: E31, E63.

* The authors wish to thank Carlos Végh, Henry Chappell, three anonymous referees and the editor Kenneth West for very helpful comments. Francisco Veiga also wishes to express his gratitude for the financial support of the Portuguese Foundation for Science and Technology (FCT), under research grant POCTI/32491/ECO/2000 (partially funded by FEDER), and acknowledge the research assistance of Helena Fernandes.
** The views expressed in this paper are those of the authors and do not necessarily represent those of the IMF or IMF policy.
*** Corresponding author: Francisco José Veiga, Departamento de Economia, Escola de Economia e Gestão, Universidade do Minho, P-4710-057 Braga, Portugal. Tel.: +351-253604534; Fax: +351-253676375; Email: fjveiga@eeg.uminho.pt.

1. Introduction

The main purpose of this paper is to empirically determine the main causes of the worldwide diversity of inflationary experiences, a challenge not yet satisfactorily confronted by the profession for two fundamental reasons. First, empirical models explaining inflation in the literature generally fail to account for inflation inertia and for the endogeneity of important economic and political variables affecting inflation. We use system-GMM estimation applied to dynamic panel data to address some of the econometric limitations of the OLS models previously used in the literature. Second, several political variables used as explanatory variables in earlier studies were relatively poorer measures of political instability than those available in new datasets, such as the Database of Political Institutions from Beck et al. (2001) and the Cross National Time Series Data Archive. The use of these and other data sources combined with modern econometric techniques might provide more accurate estimations of the relationships between inflation and political instability.

Relying upon the theoretical literature and using a dataset covering around 100 countries for the period 1960-1999, we investigate the main economic and political determinants of inflation. After controlling for the countries' economic structure and for the behavior of economic variables that may influence inflation, we find that political instability leads to higher inflation. Moreover, the impact of political instability on inflation is much stronger for high inflation than for moderate and low inflation countries, and also for developing than for industrial nations. Additionally, we find that institutions such as economic freedom and democracy are also important determinants of inflation. In particular, higher degrees of economic freedom and democracy are associated with lower inflation.

The paper is structured as follows. A survey of the empirical and theoretical literature on the relationship between inflation, political instability and institutions is presented in section 2. The dataset and the empirical models are described in section 3. Section 4 presents the empirical results and section 5 concludes the paper.

2. Political instability, institutions and inflation

Most economists acknowledge that differences in monetary and fiscal policies among countries are the main reasons behind the inflation variability they sustain. But this explanation leads to a much deeper and fundamental question, which is why countries differ on the way they conduct fiscal and monetary policies. One of the many attempts that have been made to answer this question is based upon the idea that structural features of a specific economy determine its government's ability to collect taxes. Chelliah, et al. (1975), for example, provide evidence that countries with larger per capita non–export income, more open to trade and with larger mining but smaller agricultural sectors have, on average, a higher "taxable capacity" or ease of collection. This view implies, among other things, that the countries' ability to tax is technologically constrained by their stage of development and by the structure of their economies (e.g. size of the agricultural sector in GDP), and as tax collecting costs are high and tax evasion pervasive, countries might use the inflation tax more frequently. One interpretation is that governments in poor countries might find optimal to rely more heavily on seigniorage instead of output taxes to finance their expenditures. In this connection, the Theory of Optimal Taxation (see Phelps, 1973; Végh, 1989; and Aizenman, 1992), according to which governments optimally equate the marginal cost of the inflation tax with that of output taxes, is consistent with the structural view of the determinants of inflation. Edwards and Tabellini (1991) and

Cukierman, et al. (1992) fail to find evidence that this theory applies to developing countries. The empirical failure of the Theory of Optimal Taxation motivated the use of theoretical and empirical models focusing on the role played by political and institutional variables.

Cukierman, et al. (1992) develop a theoretical model whereby political instability and polarization determine the equilibrium efficiency of the tax system and the resulting combination of tax revenues and seigniorage governments use. They provide evidence to support the model showing that higher degrees of political instability and polarization lead to higher seigniorage revenues. Their measure of political instability is derived from a probit model that attempts to explain the likelihood that an incumbent government would remain in power. In the empirical analysis of section 4, we employ alternative and more direct measures of political instability affecting seigniorage and inflation; we use variables that count the exact number of government crises or cabinet changes taking place in a particular year. Moreover, whereas they use a dummy variable for democratic regimes, we use the Polity Scale (ranged between -10 and +10) to measure different levels of democracy in different countries.[1]

Why should a greater number of cabinet changes or government crises lead to higher inflation? Frequent cabinet changes and government crises shorten the horizon of the members of government, as they are not certain that they will keep their posts during an entire term. The higher the probability of being replaced, the greater will be the importance attributed to short-term objectives. Then, it is difficult to maintain low inflation.

[1] Three additional shortcomings of the analysis in Cukierman et al. (1992) are the presence of endogeneity in some explanatory variables, the absence of explanatory variables accounting for inflation inertia, and the use of a cross-sectional dataset using averages from 1971 to 1982 for only 79 countries. We use System-GMM estimation applied to dynamic panel data covering the period 1960-1999 with annual data for around 100 countries. This methodology allows us to fully address the above-mentioned shortcomings and to use additional information provided by the changes of the different variables over time to account for the developments in inflation in each country.

Paldam (1987) studies the relationship between inflation and political instability in eight Latin American countries. He argues theoretically and examining the data (but without a formal econometric analysis) that this relationship works both ways. The main connections from inflation to political instability would be related to the costs of inflation and to the responsibility hypothesis, according to which, people hold governments responsible for economic outcomes. The causality from politics to inflation is primarily related to the demand for public expenditures (which weak governments seldom resist) that are then financed by the inflation tax. Later on, when inflation has risen to high levels, it is much harder for a weak and unstable government to resist the political pressures asking for accommodating policies.

Some authors have also stressed the importance of institutions on economic performance. Acemoglu, et al. (2002) show that institutions are a very important element explaining volatility, crises and growth, presenting evidence for a large cross-section of countries. They argue that poor macroeconomic performance is explained by weak institutions, such as the lack of a mechanism to ensure adequate contract enforcement and property rights, which, in turn, give rise to bad macroeconomic policies. We think that countries with weaker institutions not only have lower and more volatile growth but may also present higher inflation. In line with Cukierman et al. (1992), we conjecture that economies with weaker institutions might be unable to build efficient tax systems leading them to use more frequently seigniorage as a source of revenue. In the next sections, in addition to the effects of political instability on inflation and seigniorage, we also estimate the effects of institutions such as economic freedom and democracy on those variables.

3. Data and the empirical model

The dataset is composed of annual data on political, institutional and economic variables for 178 countries,[2] for the years 1960 to 1999. The sources of political and institutional data are: the *Cross National Time Series Data Archive* (CNTS); the Beck, et al. (1991) *Database of Political Institutions* (DPI 3.0); the *Polity IV* dataset; Gwartney and Lawson (2002); and the *Freedom House* ratings. Economic data was collected from the World Bank's *World Development Indicators* (WDI) and *Global Development Network Growth Database* (GDN), the International Monetary Fund's *International Financial Statistics* (IFS), the *Penn World Tables* (PWT 6.1), and the *OECD Statistical Compendium*.

The objective of our empirical exercise is to investigate the main political, institutional and economic determinants of inflation across countries and time. This is done estimating dynamic panel data models for annual inflation levels (taken from the IFS, IMF). Since the level of inflation exhibits very high variability, its logarithm was used as our dependent variable. We hypothesize that it depends on the following explanatory variables:

- *Lagged logarithm of inflation* (IFS, IMF);
- A set of variables representing political instability and institutions:[3]
    - *Government Crises* (CNTS), a proxy for political instability, counts the number of rapidly developing situations in a year that threaten to bring the downfall of the present regime, excluding situations of revolt aimed at such overthrow;
    - *Cabinet Changes* (CNTS) is the other proxy for political instability. It counts the number of times in a year in which a new premier is named and/or 50% of the cabinet posts are occupied by new ministers;

[2] Missing values for some variables reduce the number of countries to at most 97 in the estimations.
[3] Descriptive statistics for these variables are presented in the appendix.

- *Index of Economic Freedom* (Gwartney and Lawson, 2002).[4] Higher indexes are associated with smaller governments, stronger legal structure and security of property rights, access to sound money, greater freedom to exchange with foreigners, and more flexible regulations of credit, labor, and business;
- *Polity Scale* (Polity IV): from strongly autocratic (-10) to strongly democratic (10);

- A set of economic structural variables that reflect characteristics of the countries that may affect their capacity to control inflation:
  - *Agriculture (% GDP)*: share of the value added of agriculture in GDP (WDI, WB);
  - *Trade (% GDP)*: openness to trade (WDI, WB);
- Variables accounting for economic performance and external shocks:
  - *Growth of real GDP per capita* (PWT 6.1);
  - *Real Overvaluation* (GDN): real effective overvaluation of the national currency;
  - *Growth of Oil Prices* (OECD): percentage annual change in oil prices;
  - *U.S. Treasury Bill Rate* (IFS, IFM): proxy for international interest rates.

Although we consider that high inflation results in most cases from high budget deficits that are monetized, we decided not to include money growth and deficits in our baseline model because, as stated in the previous section, we are searching for deeper determinants of inflation.

The empirical model for inflation levels can be summarized as follows:

$$Inf_{it} = \alpha Inf_{i,t-1} + \mathbf{X}'_{i,t}\boldsymbol{\beta}_1 + \mathbf{W}'_{i,t}\boldsymbol{\beta}_2 + \nu_i + \varepsilon_{it} \qquad i = 1,...,N \quad t = 1,...,T_i \tag{1}$$

[4] Data on the index of economic freedom and its components is available for the years 1970, 1975, 1980, 1985, 1990, 1995 and 2000. In order to avoid a great number of missing values in our sample, straight-line interpolation was used to generate annual data.

where *Inf* stands for the inflation level of country *i* at time *t*, α is a parameter to be estimated, $\boldsymbol{\beta}_1$ and $\boldsymbol{\beta}_2$ are vectors of parameters to be estimated, **X** is a vector of strictly exogenous covariates, **W** is a vector of endogenous covariates, ν are country specific effects, and, ε is the error term.

Substantial complications arise in the estimation of this model using OLS. In both the fixed and random effects settings, the difficulty is that the lagged dependent variable is correlated with the error term, even if we assume that the disturbances are not themselves autocorrelated. Arellano and Bond (1991) develop a generalized method of moments (GMM) estimator that solves the problems referred to above. First differencing (1) removes ν_i and produces an equation estimable by instrumental variables:

$$D.Inf_{it} = \alpha D.Inf_{i,t-1} + D.\mathbf{X}_{i,t}^{'}\boldsymbol{\beta}_1 + D.\mathbf{W}_{i,t}^{'}\boldsymbol{\beta}_2 + D.\varepsilon_{it} \qquad (2)$$

where *D* is the first difference operator and the variables and parameters are defined as in (1). The Arellano-Bond dynamic panel-data estimator uses the following instruments: levels of the dependent variable lagged two and more periods; levels of the endogenous variables lagged two and more periods; and, the first differences of the strictly exogenous covariates, which are used as their own instruments.

More moment conditions are available if we assume that the explanatory variables are uncorrelated with the individual effects (see Arellano and Bover, 1995). In this case, lagged differences of these variables and of the dependent variable may also be valid instruments for the levels equation. The estimation then combines the set of moment conditions available for the first-differenced equations with the additional moment conditions implied for the levels equation. Blundell and Bond (1998) show that this system GMM estimator is preferable to that of Arellano and Bond (1991) when the dependent variable and/or the independent variables are persistent.

4. Empirical Results

The estimation results of the model described in the previous section using the method system-GMM for linear dynamic panel data models are shown in Table 1. The dependent variable is the first difference (D1) of *Log(Inflation)* and the explanatory variables are in first differences as well. For small values, each estimated coefficient indicates the percentage change in the inflation rate that results from a one unit change in the respective explanatory variable.[5]

--- Insert Table 1 about here ---

All explanatory variables described in the previous section were included in the estimation reported in column 1. Considering that the high correlation of the *Index of Economic Freedom* with the *Polity Scale*, *Agriculture (% GDP)*, and *Trade (% GDP)*,[6] may lead to problems of collinearity between independent variables, that *Index* was not included in the model of column 2. *Agriculture (% GDP)*, which was not statistically significant, was not included either. The number of *Cabinet Changes* that occur within a year was used in the model of column 3 instead of *Government Crises*. Column 4 reports the results of the estimation of the model of column 2 only for developing countries. Finally, time effects are considered in the models of column 5 and 6. The first adds dummy variables for five-year periods to the model of column 2 (8 dummies were created and one was left out of the regressions). In column 6, a quadratic time trend is added to the model of column 2 (with the variables *Time* and $Time^2$). *Time* is equal to 1 in 1960, the first year of the sample period, and increases by one in every period (it is equal to 40 in 1999).

[5] Since *Cabinet Changes, Government Crises, Growth of Real GDP per capita,* and *Real Overvaluation* can be affected by inflation, they were treated as endogenous. As done for lagged inflation, their lagged values two and three periods were used as instruments in the first-difference equations and their once lagged first-differences were used as instruments in the levels equation.

[6] These correlations are, respectively, 51%, -56%, and 40%. The complete correlation matrix is available from the authors upon request.

The results reported in Table 1 confirm the hypothesis that political instability leads to higher inflation, and show that the effects are sizeable: an additional government crisis increases the inflation rate by 16.1% (column 2),[7] and a cabinet change leads to an increase of 9.1% (column 3). The effect of a government crisis is even higher when only developing countries are considered (increases inflation by 20.2% - column 4). Economic freedom also has important effects on inflation: a move of one point up the scale (towards greater freedom) reduces the inflation rate by roughly 25% (column 1). Democracy has a small impact on inflation, as an additional point in the *Polity Scale* reduces the inflation rate by only 0.5% to 0.7% (columns 2 and 3), and this variable is not statistically significant when only developing countries are considered (column 4). Concerning the economic variables, *Trade (% GDP)*, *Real Overvaluation*, and the *Growth of Oil Prices* have relatively small impacts on inflation rates. Nevertheless, they have the expected signs: greater openness to trade and real overvaluation of the currency decrease inflation, while higher oil prices increase it. The marginal effects of the *Growth of Real GDP per capita* and of the *U.S. Treasury Bill Rate* are higher: when the Treasury Bill rate goes up by one percentage point, the inflation rate increases by roughly 3%; and when the growth rate of real GDP per capita is one point higher, inflation decreases by 2% to 3%.

Results are practically the same when time effects are taken into account. When dummy variables for five-year periods are added to the estimation of column 2, results remain virtually the same (see column 5). The same happens when a quadratic time trend is used (see column 6). *Time* and $Time^2$ are statistically significant, and their estimated coefficients imply an inverted U

[7] Thus, if the inflation rate is at its sample mean of 51.98%, a government crisis will push it to 60.35%, that is, the inflation rate will increase by 8.37 percentage points.

shape curve, with a maximum for *Time*=18 (1977). That is the worldwide trend in inflation rises from 1960 to 1977 and decreases afterwards.[8]

Columns 1 and 3 of Table 2 show the results of estimations in which *Government Crises* and *Cabinet Changes* are interacted with dummy variables accounting for current inflation below and above 50 percent. The interactions with inflation below 50 percent are not statistically significant, while those with *Inflation≥50* are highly statistically significant and have positive signs.[9] It is also worth noting that the estimated coefficients for these interactions are much higher than those found in Table 1: when the inflation rate is high or very high, an additional government crisis (see column 1) increases it by a factor of about 2.3 ≈ exp(0.845), and an additional cabinet change (see column 3) increases it by a factor of about 2.65 ≈ exp(.973). Thus, the effect of political instability on inflation is much stronger in situations of high or very high inflation than for the entire sample.[10]

--- Insert Table 2 about here ---

In columns 2 and 4, respectively, *Government Crises* and *Cabinet Changes* were interacted with dummy variables representing industrial and developing countries. Results are in line with the ones described above. The interactions with industrial countries are not statistically significant while those with *Developing Countries* are. Thus, the positive relationship between political instability and inflation found in Table 1 is true essentially for developing countries.

[8] A series of robustness tests not shown here were also performed. These consisted in adding more variables to the model of column 2 of Table 1 or in replacing some variables for reasonable alternatives. We found that the following changes lead to lower inflation: greater executive constraints, more political rights, and more civil liberties (when each of these variables replaces the *Polity Scale*); and, higher real GDP growth (when used instead of *Growth of real GDP per capita*). Proxies for ideological polarization, urbanization, currency inside banks, GDP growth of main trading partners, the exchange rate regime, and central bank independence, were not statistically significant. We also estimated models in which a dummy variable for each region was included in order to control region specific effects. Then, we performed estimations for alternative samples: first, excluding extreme values of inflation (annual rates above 1000%); and, then, excluding Latin America. Results, available from the authors upon request, were very similar to those shown in Table 1.

[9] Similar results are obtained when the *Index of Political Cohesion* (DPI, variable *Ipcoh*), or the *Fractionalization Ratio* (DPI, variable *Frac*) are used instead of *Government Crises* or *Cabinet Changes*.

[10] The same applies to the growth rate of M2.

The models of columns 5 and 6 expand that of column 1 by controlling for time effects. In column 5, dummy variables for five-year periods are used (eight dummies were created and one was left out of the regression), while the model of column 6 includes a quadratic time trend. Results regarding the effects of government crises on inflation are very similar to those of column 1.[11]

5. Conclusions

Using the dynamic panel data system-GMM estimator and the within groups (fixed effects) estimator on a sample covering around 100 countries analyzed in the period from 1960 to 1999, this paper finds that a higher degree of political instability, measured through several political and institutional variables, generates higher inflation rates. Higher numbers of cabinet changes or government crises, measure not only political instability but also economic policy variability, since every new cabinet that takes over power might have a new set of preferences regarding inflation and unemployment levels. In addition, since every new government is inserted in a very unstable political and institutional environment, it is also very likely to be removed in a short period of time. These perverse mechanisms greatly affect the way governments conduct monetary and fiscal policies generating higher inflation. We have also shown that the mechanisms indicated above are more pervasive and stronger in developing and, especially, in high inflation (above 50%) countries than in the developed and low inflation world.

The results above are in line with those obtained by Cukierman et al. (1992) regarding the positive relationship between political instability, inflation and seigniorage. Given the costs in terms of economic growth and welfare generated by high inflation levels and volatility, we

[11] The same happens when the models of columns 2 to 4 are estimated controlling for time effects. Taking time effects into account with dummies for ten-year periods or with yearly dummies produces similar results.

believe that this is an important contribution, not only for positive economics, but also in a normative way. Policy-makers in developing countries should be aware that it is essential to reform institutions and create viable mechanisms conducive to long-run price stability. Besides, inflation stabilization efforts may be only temporarily effective if they do not include serious fiscal and political reforms. Our results imply that reforms aimed at reducing political instability and increasing economic freedom and democracy would surely help reduce inflation.

References

Aizenman, Joshua. (1992). "Competitive Externalities and the Optimal Seignoriage." *Journal of Money, Credit and Banking* 24(1), 61-71.

Acemoglu, Daron, Simon Johnson, James Robinson and Yunyong Thaicharoen. (2002). "Institutional causes, macroeconomic symptoms: volatility, crises and growth." *NBER Working Paper 9124*, September.

Arellano, Manuel and Olympia Bover (1995), "Another look at the instrumental variable estimation of error-component models," *Journal of Econometrics*, 68: 29-51.

Arellano, Manuel and Stephen Bond. (1991). "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations." *The Review of Economic Studies* 58: 277-297.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. (2001). "New tools in comparative political economy: the Database of Political Institutions." *The World Bank Economic Review* 15(I), 165-176.

Blundell, Richard and Stephen Bond (1998), "Initial conditions and moment restrictions in dynamic panel data models," *Journal of Econometrics* 87: 115-143.

Chelliah, Raja, Baas, Hessel and Kelly, Margaret (1975), "Tax Ratios and Tax Effort in Developing Countries 1969-1971" *IMF Staff Papers*, March, 22: 187-205.

Cukierman, Alex, Sebastian Edwards, and Guido Tabellini. (1992). "Seignioriage and Political Instability." *American Economic Review* 82(3), 537-555.

Edwards, Sebastian and Guido Tabellini. (1991). "Explaining Fiscal Policy and Inflation in Developing Countries." *Journal of International Money and Finance* 10, S16-S48.

Gwartney, James and Robert Lawson. (2002). *Economic Freedom of the World - 2002 Annual Report.* Vancouver, B.C.: Fraser Institute.

Paldam, Martin. (1987). "Inflation and Political Instability in eight Latin American countries 1946-83." *Public Choice* 52, 143-168.

Phelps, Edmund. (1973). "Inflation in the Theory of Public Finance." *Swedish Journal of Economics 75*, 67-82

Végh, Carlos. (1989). "Government Spending and Inflationary Finance: A Public Finance Approach." *IMF Staff Papers* 36, 657-77.

Windmeijer, Frank (2000), "A finite sample correction for the variance of linear two-step GMM estimators," *Institute of Fiscal Studies Working Paper Series* Nº W00/19.

Table 1: Results for yearly inflation

		All Countries			Developing Countries	Five-year Dummies	Quadratic Trend
Log(Inflation)	**D1**	**1**	**2**	**3**	**4**	**5**	**6**
Log(Inflation)	LD1	.644 (16.7)***	.672 (20.9)***	.711 (23.9)***	.639 (16.4)***	.646 (17.3)***	.666 (19.2)***
Government Crises	D1	.139 (1.85)*	.161 (2.46)**		.202 (2.34)**	.188 (2.57)**	.157 (2.40)**
Cabinet Changes	D1			.091 (1.98)*			
Index of Economic Freedom	D1	-.249 (-6.18)***					
Polity Scale	D1	.002 (.58)	-.007 (-2.36)**	-.005 (-2.27)**	.005 (1.34)	-.007 (-2.18)**	-.006 (-1.91)*
Agriculture (% GDP)	D1	-.003 (-.94)					
Trade (% GDP)	D1	-.00004 (-.07)	-.001 (-2.71)***	-.001 (-3.40)**	-.002 (-2.73)***	-.001 (-2.68)***	-.001 (-2.85)***
Growth of Real GDP per capita	D1	-.022 (-3.22)***	-.033 (-4.92)***	-.020 (-3.80)***	-.032 (-4.61)***	-.032 (-4.09)***	-.033 (-4.51)***
Real Overvaluation	D1	-.002 (-2.41)**	-.002 (-2.21)**	-.002 (-2.52)***	-.001 (-1.53)	-.002 (-1.98)**	-.002 (-2.08)**
Growth of Oil prices	D1	.004 (6.03)***	.004 (6.59)***	.004 (6.64)***	.003 (4.17)***	.003 (3.84)***	.004 (6.57)***
U.S. Treasury Bill Rate	D1	.016 (2.39)**	.034 (5.62)***	.028 (4.80)***	.038 (4.00)***	.045 (4.92)***	.013 (1.74)*
Time	D1						.036 (2.68)***
$Time^2$	D1						-.001 (-3.01)***
# Observations		1703	2629	2630	1877	2629	2629
# Countries		89	97	97	75	97	97

Notes:
- System-GMM estimations for dynamic panel-data models (using Stata 8.2). The original model (before taking first differences) controls for country fixed effects. Sample period: 1960-1999;
- Columns 1, 2, 3, 5 and 6 report the results of estimations performed for all countries, while column 4 reports the results obtained when using a sample including only developing countries;
- Two-step results using robust standard errors corrected for finite samples (using Windmeijer's, 2000, correction).
- D1 stands for first difference and LD1 for one-time lagged first difference;
- t-statistics are in parenthesis. Significance level at which the null hypothesis is rejected: ***, 1%; **, 5%, and *, 10%;
- Hansen tests never reject the validity of the over-identifying restrictions;
- Second order autocorrelation of residuals is always rejected.

Table 2: Results using interaction variables

		1	2	3	4	5	6
Log (Inflation)	LD1	.676 (21.8)***	.677 (22.9)***	.626 (21.1)***	.669 (19.9)***	.686 (19.0)***	.663 (17.8)***
Government crises * (Inflation < 50%)	D1	.033 (.58)				-.026 (-.43)	.028 (.44)
Government crises * (Inflation ≥ 50%)	D1	.845 (6.00)***				.807 (4.55)***	.895 (5.90)***
Government crises * Industrial countries	D1		.046 (.50)				
Government crises * Developing countries	D1		.195 (2.49)**				
Cabinet Changes * (Inflation < 50%)	D1			-.074 (-.97)			
Cabinet Changes * (Inflation ≥ 50%)	D1			.973 (5.74)***			
Cabinet Changes * Industrial countries	D1				-.101 (-.83)		
Cabinet Changes * Developing countries	D1				.176 (1.90)*		
Polity Scale	D1	-.007 (-2.78)***	-.006 (-2.13)**	-.007 (-2.56)**	-.003 (-1.04)	-.005 (-1.70)*	-.005 (-1.96)*
Trade (% GDP)	D1	-.001 (-2.64)***	-.001 (-2.67)***	-.001 (-3.00)***	-.002 (-3.64)***	-.001 (-2.94)***	-.001 (-2.52)**
Growth of Real GDP per capita	D1	-.031 (-4.84)***	-.030 (-4.90)***	-.025 (-3.79)***	-.024 (-3.47)***	-.032 (-4.27)***	-.030 (-4.68)***
Real Overvaluation	D1	-.002 (-2.28)***	-.002 (-2.14)**	-.002 (-3.05)***	-.003 (-3.00)***	-.002 (-2.45)**	-.002 (-2.34)**
Growth of Oil prices	D1	.004 (6.76)***	.004 (6.55)***	.004 (7.11)***	.004 (6.79)***	.003 (3.81)***	.004 (6.84)***
U.S. Treasury Bill Rate	D1	.032 (5.73)***	.034 (5.75)***	.036 (6.45)***	.035 (5.26)***	.045 (4.75)***	.013 (1.97)*
Time	D1						.033 (2.57)**
$Time^2$	D1						-.001 (-2.99)***
# Observations		2629	2629	2630	2630	2629	2629
# Countries		97	97	97	97	97	97

Notes:
- System-GMM estimations for dynamic panel-data models (using Stata 8.2). The original model (before taking first differences) controls for country fixed effects. Sample period: 1960-1999
- The model of column 5 includes dummy variables for five-year periods. Eight dummies were created and seven were included in the model (five of them are statistically significant);
- Two-step results using robust standard errors corrected for finite samples (using Windmeijer's, 2000, correction). D1 stands for first difference and LD1 for one-time lagged first difference;
- t-statistics are in parenthesis. Significance level at which the null hypothesis is rejected: ***, 1%; **, 5%, and *, 10%; Hansen tests never reject the validity of the over-identifying restrictions;
- Second order autocorrelation of residuals is always rejected.

Appendix: Descriptive statistics for political and institutional variables

	Observations	Mean	Standard Deviation	Minimum	Maximum
Government crises	5572	.178	.529	0	7
Cabinet Changes	5667	.449	.608	0	5
Polity Scale	5344	.083	7.624	-10	10
Index of Economic Freedom	2958	5.701	1.199	2.300	9.056

Note: - Sample period is 1960-1999, except for the *Index of Economic Freedom*, for which data is available only from 1970 to 1999.